2. The apparatus of claim 1 wherein the container holds a heat absorbing material through which said vapour is passed.

3. The apparatus of claim 2 wherein the heat absorbing material comprises the vapour to be recovered in its liquid phase.

4. The apparatus of claim 2 wherein the heat absorbing material is air.

5. The apparatus of claim 2 wherein the heat absorbing material is an inert solid mass.

6. The apparatus of claim 2 wherein the heat absorbing material comprises a combination of the vapour to be recovered in its liquid phase and an inert solid mass.

7. The apparatus of claim 3 or 6 wherein the conduit directs vapour beneath the surface of said liquid.

8. The apparatus of any one of claims 1 - 7 wherein the conduit directs vapour to the bottom of said container.

9. The apparatus of claim 3, 6 or 7 wherein the vapour outlet is above the surface of said liquid.

10. The apparatus of any one of claims 1 - 9 wherein the distillation chamber is located within an oil bath which is heated by said heating means.

11. The apparatus of claim 10 wherein the heating means comprises one or more heating elements located within said oil bath.

12. The apparatus of any one of claims 1 - 9 wherein the distillation chamber is heated by means of an infrared heater located within said chamber.

13. The apparatus of any one of claims 1 - 12 further comprising means for connecting said heating means to a power supply and a control means for controlling the power provided by said power supply to said heating means, said control means comprising a computer, temperature sensing means for sensing the temperature of said distillation chamber and generating temperature reference signals which are provided as input signals to said computer and switching means for selectively providing power to said heating means from said power supply, said computer being programmed to apply control signals to said switching means to control the amount of power applied to said heating means in accordance with said input signals received from said temperature sensing means.

14. The apparatus of claim 13, wherein said computer is programmed with a set of parameters based on the input signals received from the temperature sensing means which, if exceeded, will activate said switching means to perform an ordered shutdown of said heating means by selectively activating said switching means to disconnect said heating means from said power supply.

15. The apparatus of claim 13, wherein the temperature sensing means comprises one or more platinum thermistor temperature probes.

16. The apparatus of claim 13, wherein said heating means consists of at least one heating element.

17. The apparatus of claim 13, wherein said heating means consists of a direct heating means.

18. The apparatus of claim 17, wherein said heating means consists of an infrared heating lamp.

19. The apparatus of claim 13, wherein said switching means comprises one or more relays.

20. The apparatus of claim 13, wherein said heating means consists of a plurality of heating elements and said switching means comprises a plurality of relays respectively connecting said heating elements to said power supply.

21. The apparatus of claim 13, wherein said computer is programmed with a control law so that when a mixture of solvents including an aqueous component is to be distilled in said distillation chamber, said computer runs a distillation procedure wherein the heating means raises the solution to a temperature causing the solvent with the lowest boiling point to vaporize, the temperature is then maintained until the aforementioned solvent is substantially removed from the solution, at which time the temperature is raised again until the solvent with the next lowest boiling point begins to vaporize and the process is then repeated until all solvents have been distilled off.

22. The apparatus of claim 13, wherein computer controls said switching means to vary the input to the heating means to balance the rate of vaporization of a solvent with the rate of condensation of the same solvent in a separate, but connected, container.

23. The apparatus of claim 1, wherein said vapour management module comprises a container containing heat absorbing material and a conduit extending between said vapour outlet of said direct condensation module and a vent, said conduit passing through said heat absorbing material.

24. The apparatus of claim 23, wherein said vent is at a higher elevation than said vapour outlet of said direct condensation module.

25. The apparatus of claim 23 or 24 wherein the heat absorbing material is a liquid.

26. The apparatus of claim 23 or 24 wherein the heat absorbing material is crystalline.

27. The apparatus of claim 23 or 24 wherein the heat absorbing material is water mixed with a salt to form a crystallized state.

28. The apparatus of claim 1, wherein said vapour management module comprises a container containing solid heat absorbing material which is permeable to vapour and condensation through which said vapour passes from said direct condensation module to said vent.

29. The apparatus of claim 28 wherein the heat absorbing material is steel ball bearings.

30. The apparatus of claim 28 wherein the heat absorbing material is glass chips.

31. The apparatus of any one of claims 28 - 30 wherein a support member is provided in said vapour outlet of said direct condensation module, said support member being permeable to vapour and condensation and impermeable to said heat absorbing material.

32. The apparatus of any one of claims 1 - 31 wherein the container of said direct condensation module is provided with a drainage means for draining liquid therefrom.

33. The apparatus of claim 32 wherein the drainage means comprises a tap.

34. The apparatus of claim 32 wherein the drainage means comprises an overflow pipe in said container.

35. A vapour management system comprising a container containing heat absorbing material, a vent, a vapour inlet and means for guiding vapour from said vapour inlet through said heat absorbing material to said vent.

36. The apparatus of claim 1, wherein said vapour management module comprises a container containing heat absorbing material and a conduit extending between said vapour inlet and said vent, said conduit passing through said heat absorbing material.

37. The apparatus of claim 35, wherein said vapour management module comprises a container containing solid heat absorbing material which is permeable to vapour and condensation through which said vapour passes from said vapour inlet to said vent.

38. The apparatus of claim 37 wherein the heat absorbing material is steel ball bearings.

39. The apparatus of claim 37 wherein the heat absorbing material is glass chips.

40. The apparatus of any one of claims 37 - 39 wherein a support member is provided in said vapour inlet, said support member being permeable to vapour and condensation and impermeable to said heat absorbing material.

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